

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A support system, including;
a first support portion and a second support
portion for receiving a riders buttocks; and
and a hinge for allowing each of the first and
second support portions to undergo independent arcuate
movement having a component at least in a substantially
vertical plane when the rider is seated on the support
portions and performing a pedalling motion.
2. A support system, including;
a first support portion and a second support
portion for receiving a riders buttocks;
a front portion coupled to the first and second
support portions; and
and a hinge between the first and second support
portions and the front portion for allowing each of the
first and second support portions to undergo substantially
independent arcuate movement having a component at least in
a substantially vertical plane when the rider is seated on
the support portions and performing a pedalling motion.
3. The support system of claim 2, wherein the first
and second support portions are separated by a longitudinal
slot.
4. The support system of claim 2, wherein the hinge
comprises a first hinge between the first support portion
and the front portion and a second between the second
support portion and the front portion.
5. The support system of claim 2, wherein the
support system includes an integral shell which includes
the first and second support portions, the front portion
and the hinge with the hinge being defined by a transition
between the support portions and the front portion.

6. The support system of claim 5, wherein the shell
is provided with upholstery which covers the shell.

5 7. The support system of claim ~~1~~², wherein the support system has connecting means for connecting the support system to an article, the connecting means being coupled to the front portion between a front end of the front portion and the hinge so as not to interfere with flexing movement of the hinge and the arcuate movement of
10 the first and second support portions.

8. The support system of claim 7, wherein the connecting means comprise connecting rails.

9. The support system of claim 8, wherein the connecting rails are coupled to the shell by embedding portions of the rails into the shell when the shell is formed.

10. The support system of claim 2, wherein the support portions are cupped shaped for receiving the ischial bone region and buttock region of a rider.

25 11. The support system of claim ~~2~~, wherein the front
portion comprises a truncated nose.

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~~12~~. The support system of claim ~~2~~, wherein the front portion includes a soft padding to extend the length of the truncated nose, wherein, in use, the soft padding collapses when contacted by a rider.

13. A support system including;
first and second support portions, the first and
35 second support portions each having a depression for
receiving the ischial regions of a persons anatomy;

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a raised portion between and forward of the depressions of the first and second support portions, for receiving the ramus of the ischial regions or the ischial regions of a persons anatomy;

5 and a nose section which extends forwardly of the support portions and which declines from the support portions towards a front end of the nose section.

14. The support system of claim 13, wherein the first and second support portions are separated by an elongated slot.

15. The support system of claim 13, wherein the first and second support portions and the front portion are integral with one another by being made as an integral shell.

16. The support system of claim 13, wherein the support portion includes upholstery on the shell.

17. A support system, including;
a support portion for receiving a users buttocks;
a truncated nose extending forwardly from the support portion;
25 a soft collapsible upholstery member provided on the nose portion for extending the nose portion forwardly and/or upwardly with respect to the support portions.

18. The support system of claim 17, wherein the self collapsible material is a foam or sponge material or polyurethane or the like.

19. The support system of claim 17, wherein the support portions and truncated nose are formed as a integral shell from plastics materials.

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20. A bicycle seat, including:

a unitary shell having a nose portion and a rear portion, the shell being formed from a flexible material;

a slot in the rear portion dividing the rear portion into two separate support portions; and

- 5 each of the support portions being independently movable relative to the nose portion and each other by flexure of the flexible material from which the shell is formed so that a transition between the two separate support portions and the nose portion forms a hinge
- 10 allowing the two separate support portions to undergo substantially independently movement when a rider is seated on the bicycle seat and pedalling a bicycle.

15 ¹⁵~~21~~. The bicycle seat of claim ¹⁴~~20~~, wherein the bicycle seat includes a cushioning skin over an upper surface of the unitary shell.

20 ¹⁶~~22~~. The bicycle seat of claim ¹⁴~~20~~, wherein the shell has an upper surface and a lower surface, a plurality of ribs projecting from the lower surface.

23. The bicycle seat of claim ¹⁴~~20~~, wherein a mounting rail is coupled to the lower surface of the shell.

25 ¹⁸~~24~~. The bicycle seat of claim ¹⁷~~23~~, wherein the mounting rail extends to a position below the support portions and a spring is arranged between the mounting rail and each support portion.

30 ¹⁹~~25~~. The bicycle seat of claim ¹⁸~~24~~, wherein the spring is a coil spring which is connected to the mounting rail and to the shell.

35 ²⁰~~26~~. The bicycle seat of claim ¹⁹~~25~~, wherein the spring is integral with the mounting rail and be defined by a curved or bent portion of the mounting rail.

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21. The bicycle seat of claim 14, wherein the nose portion has an undercut for receiving a front portion of the mounting rail to secure the front portion of the mounting rail to the shell.
- 5 22. The bicycle seat of claim 20, wherein stop means is provided for limiting movement of the two support portions.
- 10 23. A bicycle seat, including:
a nose portion;
a rear support portion coupled to the nose portion, the rear support portion having first and second support portions;
15 a hinge for allowing each of the first and second support portions to undergo substantially independent movement ^{arcuate} relative to one another and the nose portion, the independent arcuate movement having a component at least in a substantially vertical plane when ^a the rider is seated on
20 the support portions and forming a pedalling motion; and
stop means for limiting the amount of movement of the first and second support portions.
- 25 24. The bicycle seat of claim 23, wherein the bicycle seat includes a mounting rail for mounting the seat to a bicycle and the stop means comprises end portions of the mounting rail which are spaced from the first and second support portions and positioned below the first and second support portions.
- 30 31. A bicycle seat, including:
a nose portion;
a rear portion for receiving a rider's buttocks;
the nose portion and rear support portion having
35 an upper surface and a lower surface;
a mounting rail coupled to the lower surface;

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a cut-out in the nose portion for receiving a front portion of the mounting rail to hold the front

securing means for securing the mounting rail to
5 the lower surface substantially at a middle portion of the
lower surface so the rear portion is free and not connected
to the mounting rail.

32. The bicycle seat of claim 31, wherein the
10 securing means comprises a bracket and bolt and nut for
clamping the mounting rail to the lower surface.

33. The bicycle seat of claim 32, wherein the bolt is embedded in the shell for receiving the nut and the bracket to couple the bracket and therefore the mounting rail to the bicycle seat.

34. A support system including:
an inflatable housing which defines a chamber for
20 receiving a fluid; and
wherein when a user is supported by the support
system and moves, fluid is caused to move from one part of
the housing to another part of the housing so that the said
one part can change its shape and/or form and the fluid
25 flow to said another part causes the said another part to
change its shape and/or form in response to the change in
fluid in said another part of the housing.

30 35. The support system of claim 34, wherein the housing includes a fluid inlet in the housing for enabling fluid to enter the housing.

36. The support system of claim 34, wherein the housing includes rigid sections so that the general shape of the housing is maintained notwithstanding the fact that the housing is able to expand or collapse during movement of the user on the seat.

37. The support system of claim 34, wherein the housing includes two housing portions joined by a fluid passage so that when fluid passes from one part of the housing to the another part of the housing, the fluid passes through the fluid passage to thereby direct the fluid to particular parts of the housing for expansion of those parts of the housing.
38. The support system of claim 34, wherein the housing is made from elastomeric material such as rubber, elasticated plastic or like stretchable material to enable expansion and contraction of the housing as the fluid moves from one part of the housing to another part of the housing.
39. The support system of claim 38, wherein the seat has a base plate for supporting the housing.
40. The support system of claim 39, wherein the base plate has attachment means for attaching the seat to an article.
41. The support system of claim 40, wherein the attachment means comprises a pair of rails.
42. A support system including:
a first portion;
a second portion;
the first and second portions being coupled to one another by spring material so that the first portion can move in response to a user's weight and/or pressure applied by a user when a user is supported by the support system and return as a user moves and reduces pressure and/or weight on that portion of the support system.

43. The support system of claim 42, wherein the first portion of the support system includes two separate sections.

5 44. The support system of claim 42, wherein the first portion of the support system and the second portion of the support system are formed from spring material and the hinge is an integral part of the support system forming a transition between the first and second portions.

10 45. The support system of claim 42, wherein the first and second portions are formed from non-spring material and be coupled together by a hinge section formed from spring material.

15 46. A support system, including:
an abutment portion within the support system;
biasing means for biasing the abutment portion
relative to the support system so that the abutment portion
20 can move relative to the support system; and
the biasing means providing a floating support
for the abutment portions so that the abutment portion can
move relative to the support system against the bias of the
biasing means in response to the weight or pressure of a
25 user when supported by the support system.

30 47. The support system of claim 46, including a single abutment portion which may be in the public area.

48. The support system of claim 46, wherein the abutment portions are ramp-shaped so as to form an inclined abutment portion.

35 49. A support system, including:
at least two separate chambers in the support system; and

a fluid inlet to each of the chambers for allowing fluid to enter each of the chambers.

50. A support system including:
5 an inflatable abutment portion coupled to the support system;
a fluid inlet to the inflatable abutment portion for coupling with a fluid reservoir for retaining a supply of fluid; and
10 fluid control means for allowing flow of fluid from the fluid reservoir to the inflatable abutment portion.
51. The support system of claim 50, wherein the fluid
15 reservoir is coupled to the control means.
52. The support system of claim 50, wherein the fluid
which is supplied to the housing or which is used to inflate the abutment portion(s) comprises air.
- 20 53. A support system including:
a support portion; and
at least one abutment portion in the support portion, the abutment portion being a fluid chamber for
25 containing a fluid.
54. The support system of claim 53, wherein the fluid
chamber includes a fluid inlet and the fluid chamber is an
30 inflatable chamber.
55. A support system including:
an abutment portion coupled to the support
system;
35 fluid receiving means for moving the abutment portion relative to the support system; and
fluid control means for controlling the

The first step in the process of the
 development of the new system is the
 identification of the requirements. This
 is done by the user and the system
 analyst. The next step is the design
 of the system. This is done by the
 system analyst. The third step is the
 implementation of the system. This is
 done by the programmer. The fourth
 step is the testing of the system. This
 is done by the user and the system
 analyst. The fifth step is the
 maintenance of the system. This is
 done by the system analyst.

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application of fluid to the fluid receiving means to provide a desired amount of movement of the abutment portion and/or lock of the abutment portion in a desired position relative to the support portion.

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